

A REVIEW OF THE POLYCHAETE FAMILY NEREIDIDAE FROM WESTERN MEXICO

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ABSTRACT

The nereidids from the western coasts of Mexico collected by the Allan Hancock Pacific Expeditions (1933–1970), which are deposited in the Natural History Museum of Los Angeles County, are analyzed. Twenty five species belonging to the subfamilies Gymnonereidinae (four species) and Nereidinae (21) are reviewed. A new genus characterized by the presence of both paragnaths and papillae in pharyngeal areas VII and VIII is described, along with three new species from the genera *Eunereis*, *Nereis* and *Rullierinereis*.

The nereidids of the western coast of Mexico have been studied by various authors, including: Hartman (1940), Fauvel (1943), Berkeley and Berkeley (1958), Rioja (1962), Fauchald (1972), Kudenov (1975, 1979, 1980), Salazar-Vallejo (1981, 1985), Sarti and Solís-Weiss (1988), Hernández-Alcántara and Solís-Weiss (1991), de León-González and Góngora-Garza (1992) and Bastida-Zavala (1993, 1994); and a total of 52 species was reported from that area.

In the present study, 25 species deposited in the polychaete collection of the the Natural History Museum of Los Angeles County were analyzed. Most of the material was collected between 1933 and 1970, by the Allan Hancock Pacific Expeditions, as well as several specimens from private collections. A new genus, *Imajimainereis*, is described along with three new species belonging to genera *Eunereis*, *Nereis* and *Rullierinereis*.

Holotypes of the following species were examined: *Ceratonereis vermillionensis*, *Neanthes cortezi*, *N. mexicana*, *Nereis angelensis*, *N. anoculopsis*, *N. fossae* and *Nicon moniloceras*. Terminology of parapodial structures was taken from Hutchings and Reid (1990). For each species entry, under 'material examined', the station number is given with number of specimens in parentheses. See Appendix 1 for Station data.

Ceratocephale hartmanae Banse, 1977

Ceratocephale hartmanae Banse 1977: 617, fig. 2b–f.

Material Examined.—7 spec., sta. 11792 (4); 11815 (1); 13724 (1); 13755 (1).

Distribution.—Recorded from California to Acapulco Bay. This is the first record for Mexican waters.

Ceratocephale oculata Banse, 1977

Ceratocephale oculata Banse 1977: 620, fig. 3.

Material Examined.—34 spec., sta. 6177–59 (3); 6179–59 (2); 14237 (29).

Distribution.—Amphiamerican. From North Carolina to the Gulf of Mexico, western coast of Mexico.

Ceratonereis costae (Grube, 1840)

Ceratonereis costae: Hartman 1940: 218; Day 1967: 325, fig. 14.10h–l; Rullier, 1972: 78; Nuñez et al., 1981: 166, fig. 4; Wu et al., 1985: 171, fig. 96a–i; fig. 98a–f; de León-González et al., 1993: 878.

Material Examined.—11 spec., sta. 702-37 (1); 650-37 (1); 683-37 (1); 1093-40 (7); 6179 (1).

Distribution.—Cosmopolitan. In tropical to subtropical waters. South Africa, Canary Islands, Indian Ocean, Mediterranean Sea, Indonesia, Malaysia, Philippines and Vietnam.

Ceratonereis singularis (Treadwell, 1929)

Ceratonereis singularis: Perkins 1980: 17, figs. 7–10; Hartmann-Schröder 1985: 45, figs. 36–39; Salazar-Vallejo et al., 1990: 213.

Material Examined.—94 spec., sta. 549-36 (1); 1048-40 (1); 1093-40 (3); 633-37 (2); 634-37 (3); 638-37 (1); 1737-49 (2); 1736-49 (6); 498-36 (2); 607-36 (1); 639-37 (12); 1111-40 (1); 662-37 (4); 1101-40 (3); 1103-40 (4); 1771-49 (1); 683-37 (1); 688-37 (6); 2024-51 (1); 14240 (15); 14241 (6); H46-224 (1); 2596-54 (17).

Distribution.—Amphiamerican. Gulf of California south to Panama, North Carolina south to Colombia.

Ceratonereis vermillionensis Fauchald, 1972

Ceratonereis vermillionensis Fauchald 1972: 66, pl. 10, figs. a–e.

Material Examined.—3 spec., Sta. 11791 (LACM-AHF 1062, Holotype); 11745 (LACM-AHF 1063, Paratype); 13755-70 (1).

Remarks.—Fauchald (1972) indicates the presence of one cone in area I and two in area II. The examination of the holotype showed that area I lacks paragnaths, in area II two cones are present, and in area IV seven cones in a group are present; in addition, the paratype has eight large teeth on the jaws and others specimens have 11 teeth. All the other characters agree with the original description.

Distribution.—Eastern tropical Pacific. Known from the Gulf of California south to the Marias Islands.

Eunereis eugeniae new species
(Fig. 1A–G)

Material Examined.—One spec., sta. 2066-51 (LACM-AHF 1905, Holotype).

Diagnosis.—Specimen complete with 92 setigers, 38 mm long and 2 mm wide included parapodia, no evident pigmentation. Prostomium pentagonal, one pair of digitiform frontal antennae longer than the anterior edge of palps. Two pairs of eyes, anterior ones with lens. Palps biarticulate with conical palpostyle. Peristomium as wide as first two

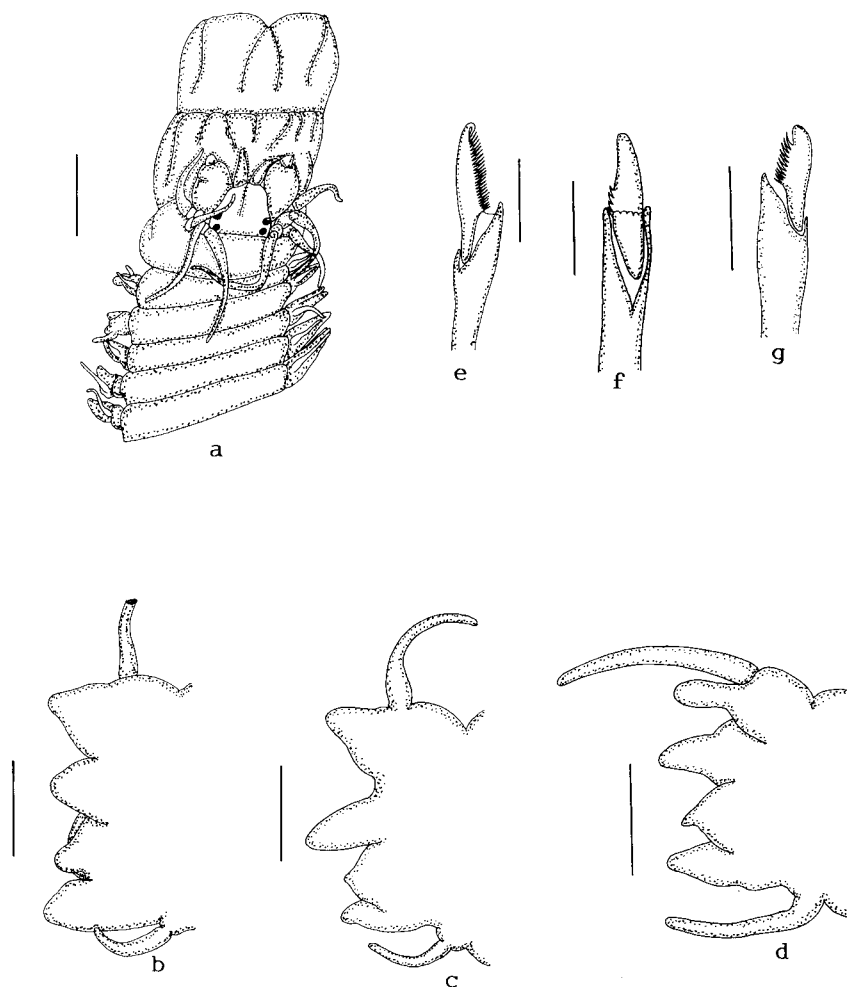


Figure 1. *Eunereis eugeniae* n. sp. a. Anterior end, dorsal view; b. 10th Setiger; c. 44th Setiger; d. 85th Setiger; e. Neuropodial heterogomph falciger from setiger 10; f. Notopodial homogomph falciger from setiger 44; g. Neuropodial heterogomph falciger from setiger 44. Scale bar: (a) 1mm; (b–d) 250 μ m; (e) 15 μ m; (f–g) 30 μ m.

setigers, with four pairs of short tentacular cirri, the longest pair extending posteriorly past setiger 4 (Fig. 1A).

Pharynx with paragnaths only in the oral ring: Areas VII–VIII with seven light colored cones in one row. Jaws with eight teeth.

Anterior parapodia with dorsal, median and ventral ligules subtriangular, postsetal neuropodial lobes rounded distally. Dorsal and ventral cirri subequal (Fig. 1B). Median parapodia with notopodia consisting of one dorsal triangular ligule, median ligule subulate, neuropodial presetal lobe mamilliform, ventral ligule subulate. Dorsal cirri inserted medially, larger than the ventral one, which is basally inserted (Fig. 1C). Posterior parapodia with notopodium formed by one dorsal ligule, basally wide and distally slender; median

ligule triangular. Neuropodium with dorsal ligule mamilliform, median one subulate. Dorsal and ventral cirri subequal (Fig. 1D).

Anterior parapodia with notopodial supracicular homogomph spinigers; supracicular neurosetae homogomph spinigers and heterogomph falcigers, infracicular neurosetae with one spiniger and several heterogomph falcigers, the latter similar to the supracicular ones, with a slender blade finely dentate on its internal margin, apical tip recurved (Fig. 1E). Supracicular notosetae in median parapodia homogomph, one spiniger and two falcigers, the latter with a short blade, with four proximal teeth, a crenulated membrane fused to the edges (Fig. 1F); neurosetae only in supracicular position, one heterogomph falciger with a small blade distally rounded and heavily dentate on its internal margin (Fig. 1G). Posterior parapodia with one supracicular notopodial homogomph falciger, similar to those in median parapodia; neurosetae only in infracicular position, represented by single spiniger and heterogomph falciger.

Pygidium with two long anal cirri; anus terminal.

Distribution.—Endemic. Only known from one locality in Punta Eugenia, Baja California Sur, Mexican Pacific.

Etymology.—The specific name refers to type locality, Punta Eugenia.

Remarks.—The seven species described for *Eunereis* can be divided into two groups: (1) with notopodial homogomph falcigers; (2) without notopodial homogomph falcigers. *E. eugeniae* belongs to the first group, which also includes *E. longipes* Hartman 1936 (California), *E. longissima* (Johnston, 1840) (West Europe), *E. marri* Monro 1939 (Australia), and *E. wailesi* Berkeley and Berkeley 1954 (Vancouver Island). The first two species have homogomph notopodial falcigers with blade finely multidentate; last two species with homogomph notopodial tridentate falcigers. *E. eugeniae* falcigers with four teeth. The species can be differentiated by the number of paragnaths present in the oral ring: *E. marri* has one continuous band of small cones in areas V, VI and VII-VIII; *E. wailesi* only three small inconspicuous cones present in areas VII-VIII, and possibly two more in groups V-VI; and in *E. eugeniae* there is one row of seven conspicuous paragnaths in areas VII-VIII.

Gymnonereis crosslandi (Monro, 1933)

Gymnonereis crosslandi: Banse 1977: 623; Taylor 1984: 31.4, fig. 31.2a–d.

Material Examined.—One spec., sta. 2017-51 (LACM-AHF 0846).

Distribution.—Amphiamerican. In the Pacific, from California south to Oaxaca, Mexico; Gulf of Mexico, Florida and Texas.

Imajimainereis new genus

Type Species: *Imajimainereis pacifica* new species

Diagnosis.—Prostomium pentagonal, with one pair of frontal antennae and two pairs of rounded eyes. Peristomium without parapodia or setae; with four pairs of tentacular cirri. Pharynx with chitinous paragnaths in both pharyngeal rings, and in area VII-VIII one row of soft papillae intercalated with chitinous cones. Parapodia of the first two

setigers subbiramous, the rest biramous. Dorsal cirri inserted medially; notopodium with a dorsal and median ligule, and a small superior lobe; neuropodium formed by one postsetal lobe and a ventral ligule. Notosetae homogomph spinigers. Neurosetae homogomph and heterogomph spinigers, and heterogomph falcigers.

Etymology.—The genus is named in honor of Minoru Imajima for his contributions to the knowledge of polychaetes.

Imajimainereis pacifica new species

(Fig. 2A–F)

Material Examined.—One spec., sta. 14355 (LACM-AHF 1904, Holotype).

Diagnosis.—Body incomplete posteriorly, with 49 setigers, 12 mm long and 1.7 mm wide including parapodia. Prostomium as long as wide, with one pair of slender frontal antennae which extend posteriorly slightly farther than distal region of palps. With two pairs of large rounded eyes, in rectangle arrangement. Palps globose, biarticulate, with conical palpostyles. Peristomium as long as the following setiger, with four pairs of slender tentacular cirri, the longest pair reaching setiger 16 (Fig. 2A).

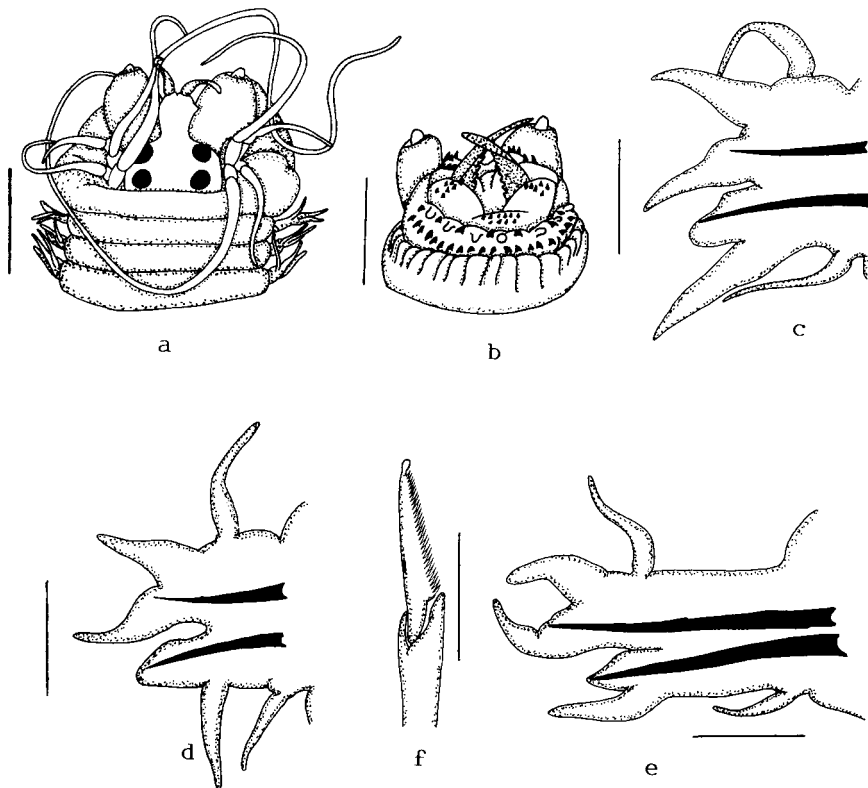


Figure 2. *Imajimainereis pacifica* n. gen. n. sp. a. Anterior end, dorsal view; b. Anterior end, ventral view; c. 10th Setiger; d. 28th Setiger; e. 48th Setiger; f. Neuropodial heterogomph falciger from setiger 28. Scale bar: (a–b) 1 mm; (c–e) 150 μ m; (f) 15 μ m.

Pharynx with chitinous paragnaths in the maxillar ring; chitinous paragnaths and soft papillae in the oral ring in the following arrangement: I:0; II: three cones in a triangle; III: 11 small cones in two rows; IV: seven cones in two rows; V: 0; VI: three cones in a triangle; VII-VIII: proximal row with 19 cones, distal row formed by seven chitinous cones intercalating with seven soft globose papillae. Jaws with nine teeth (Fig. 2B).

Anterior parapodia: notopodia with pointed dorsal and median ligules, and small superior lobes; postsetal neuropodial lobes rounded, ventral ligule elongate, longer than notopodial ligule. Dorsal and ventral cirri subequal (Fig. 2C). Median and posterior parapodia with notopodial ligules similar to those of anterior parapodia; neuropodium with postsetal lobe conical, ventral ligule slender (Fig. 2D,E). Posterior parapodia elongate, dorsal cirri larger than ventral ones (Fig. 2E).

Notosetae homogomph spinigers with long and slender blade, finely spinous in internal margin. Supracicular neurosetae in anterior parapodia homogomph and heterogomph spinigers. In median parapodia only homogomph spinigers. Posterior parapodia with both homogomph spinigers and heterogomph falcigers, capitate, with long blades, with superior margin finely spinous (Fig. 2F). Infracicular neurosetae in anterior and median parapodia, homogomph and heterogomph spinigers, the last with short blade; in posterior parapodia, heterogomph spinigers and falcigers, similar to supracicular ones.

Remarks.—The representative character of *Imajimainereis* is the presence of one row of intercalating paragnaths and soft papillae from areas VII-VIII; this character, has never been previously observed in the family Nereididae.

Distribution.—Endemic to Mexico. Only known from the type locality in the northern region of the Gulf of California.

Etymology.—The name of the species refers to the Pacific Ocean.

Nicon moniloceras (Hartman, 1940)

Nicon moniloceras: Hartman 1959: 274; Imajima and Hartman 1964: 150, pl. 35, figs. a–c; Uschakov and Wu 1965: 196; Imajima 1972: 53, fig. 8a–j; Taylor 1984: 31.13.

Material Examined.—Five spec., sta. 900-38 LACM-AHF 0815 (1 Holotype), LACM-AHF 0816 (3 Paratypes); 549-36 (1).

Remarks.—The paratypes differ from the type specimen in the number of articles of the peristomial cirri: anterior internal cirri with 19, 7 and 9 respectively in each specimen; external anterior cirri with 6, 3 and 4 respectively; internal posterior cirri with 24, 17 and 22 respectively; the posterior external ones with 11, 7 and 6 segments respectively. Frontal antennae formed by 3–5 articles.

Distribution.—Disjunct, Amphipacific-Amphiamerican. California (south) to western Mexico, China and Japan Sea, Gulf of Mexico.

Neanthes cortezi Kudenov, 1979

Neanthes cortezi Kudenov 1979: 118, fig. 2.

Material Examined.—23 spec., sta. 76-1 (LACM-AHF 0846, Holotype); (LACM-AHF 1344, 22 Paratypes).

Remarks.—Some variations in the pharyngeal arrangement were found in the paratype specimens: Area I: 4–7 cones in a cluster, II: 19–32 cones in a triangle, III: 43–59 in oval cluster, IV 39–69 in a crescent, V 8–18 cones in oval cluster, VI one big cone, VII–VIII 83–115 cones in 3–4 irregular rows. Jaws with 6–11 teeth.

Distribution.—Endemic. Known only from one locality in the northern Gulf of California.

Neanthes mexicana Fauchald, 1972
(Fig. 3A–F)

Neanthes mexicana Fauchald 1972: 70, pl. 11, figs. a–d.

Material Examined.—One spec., sta. 7249-61 (LACM-AHF 1061, Holotype).

Additional Material.—Nine spec., USA: In front of Punta Arguello, California, Col. K. L. Smith, 34°41'N, 123°03'W, 4134 m, 25/06/1992 (1); 34°43'N, 120°04'W, 4100 m, 20/10/1992 (1); 34°48'N, 123°00'W, 4100 m, 26/10/1989 (3); 34°47'N, 123°07'W, 4134 m, 21/06/1991 (4).

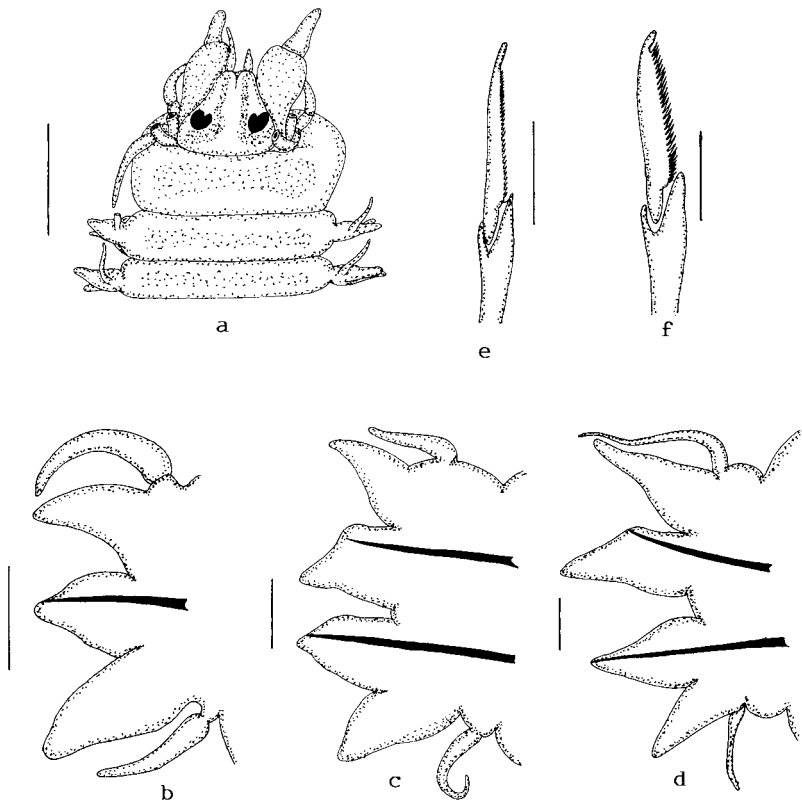


Figure 3. *Neanthes mexicana*. a. Anterior end, dorsal view; b. First setiger; c. 10th Setiger; d. 50th Setiger; e. Neuropodial heterogomph falciger from setiger 2; f. Neuropodial heterogomph falciger from setiger 50. Scale bar: (a) 0.5 mm; (b–d) 250 μ m; (e–f) 30 μ m.

Discussion.—The holotype is poorly preserved, so that a complete revision of the organism was impossible. The observations on the holotype, that could be made agree with Fauchald's description, except in the pharyngeal arrangement where the following variations were observed in the areas: I: one cone; II: four cones in two rows III: three cones in a group; IV: four cones in two rows; V: 0; VI: one cone; VII-VIII: five cones in one row; jaws with five teeth.

Some specimens from deep waters collected off California (USA) shores, were also analyzed and agree with the type, except that compound neuropodial falcigers are present in supracicular and infracicular position all along the body. In those, the blade is long and slender, with one tooth distally blunt. The pharyngeal arrangement is similar to the type specimen. Illustrations are provided of one specimen collected at a depth of 4100 m (34°43'N, 120°04'W) (Fig. 3A–F). Specimens collected in California, were extracted from the tubes of an undescribed species of *Paradiopatra* (Leslie Harris, pers. comm.). The species is probably commensal with the onuphids.

Distribution.—Eastern Pacific in temperate waters. From California to Isla Cedros, Baja California.

Neanthes succinea (Frey and Leuckart, 1847)

Neanthes succinea: Hartman 1945: 17, pl. 3, figs. 1–2; 1968: 529, figs. 1–5; Rioja 1946: 205, pl. 1, figs. 1–2; 1962: 165; Imajima 1972: 108, fig. 32a–k; Taylor 1984: 31.17, figs. 31.16a–h.

Material Examined.—Two spec., sta. 14296 (1); 14293 (1).

Distribution.—Cosmopolitan in temperate waters. Atlantic from the North Sea to South Africa, and from Massachusetts to Uruguay; Pacific from California to Panama; Indian Ocean.

Nereis angelensis Fauchald, 1972

Nereis angelensis Fauchald 1972: 72, pl. 11, figs. e–j.

Material Examined.—Three spec., sta. 11827 LACM-AHF 1060 (1, Holotype); 11832 (1); 11825 (1).

Distribution.—Eastern Pacific. From western Mexico.

Nereis anoculopsis Fauchald, 1972

Nereis anoculopsis Fauchald 1972: 75, pl. 12, figs. a–g.

Material Examined.—One spec., sta. 11813 (LACM-AHF 1057, Holotype).

Remarks.—Upon review of the type material, only two differences were found from the original description: Fauchald (1972) indicates that this species lacks eyes, but four small, barely visible, spots were observed where eyes are usually located, and we think that preservation could have faded the pigmentation. Additionally, the pharyngeal formula varies slightly from Fauchald's description, I: two in a transverse row; II: two in a transverse row; III: 0; IV: four in a transverse row; V: 0; VI: one small cone; VII-VIII: two

cones in a transverse row. The arrangement observed in the type specimen is the following: Areas I, III, V and VI with no paragnaths; II with four cones in transverse row; IV four cones in a clump; VII-VIII four cones in a row.

Distribution.—This species is only known from one locality in the continental slope in front of Guaymas, Sonora (Gulf of California) at a depth of 1632 m.

***Nereis baolingi* new species**
(Fig. 4A–G)

Material Examined.—Two spec., sta. 2064-51 (LACM-AHF 1906, Holotype; and one Paratype, UANL 3982).

Diagnosis.—Holotype incomplete, with 85 setigers, 32 mm long and 2 mm wide including parapodia. Prostomium pentagonal with one pair of digitiform frontal antennae, reaching the anterior margins of the palps. Two pairs of small lensed eyes, in trapezial arrangement. Palps biarticulate, with cylindrical palpostyles. Peristomium 1.5 times as long as the first setiger, with 4 pairs of short tentacular cirri, the longest pair reaches setiger 2 (Fig. 4A).

Pharynx with very small, hardly visible, paragnaths, arranged as follows: area II: two cones; IV: two cones; VII-VIII: seven cones in one row. Jaws with nine teeth.

Anterior parapodia with dorsal and median ligules conical, neuropodial postsetal lobes mammilliform, ventral ligule conical. Dorsal and ventral cirri subequal inserted basally (Fig. 4B). Median and posterior parapodia with dorsal and median ligules triangular, neuropodial postsetal lobes similar to the ones in anterior parapodia (Fig. 4C–D). Dorsal cirri elongate in posterior parapodia.

Setae of anterior parapodia in the following arrangement: supracicular notosetae homogomph spinigers. Supracicular neurosetae homogomph spinigers and heterogomph falcigers with slender blades, with a recurved apical tip (Fig. 4E); infracicular spinigers and falcigers heterogomph. Median parapodia with notopodial supracicular setae homogomph spinigers and falcigers with short, blunt blades, with 3–4 teeth on their internal margin, with one crenulate membrane fused to the shaft edge (Fig. 4F); in posterior notopodia only homogomph falcigers. Neurosetae in median and posterior parapodia, arranged as in the anterior ones, but heterogomph falcigers shorter (Fig. 4G).

Pygidium with one pair of anal ventral cirri.

Remarks.—*N. baolingi* belongs to the group of species with short notopodial homogomph falcigers, finely dentate on their internal margin, posterior notopodia not elongate, and few paragnaths in pharynx. This species is close to *Nereis eugeniae* (Kinberg, 1866) reported from the eastern South Pacific, but can be differentiated in the pharynx dentition. In *N. baolini*, áreas I, III, V and VI without paragnaths, area II with two small cones, area IV with two minute cones, and area VII-VIII with seven cones in a row. Without paragnaths on áreas I, IV and V in *N. eugeniae*, area II with 9–11 cones in two rows, area III with six small cones in a crescent shape, area VI with three cones in a transverse row, and area VII-VIII with 3–4 cones in a single row.

Distribution.—Endemic to western shores of the Baja California peninsula, in front of Punta Eugenia.

Etymology.—This species dedicated to the late Prof. Baoling Wu, who contributed to the knowledge of the nereidids of China.

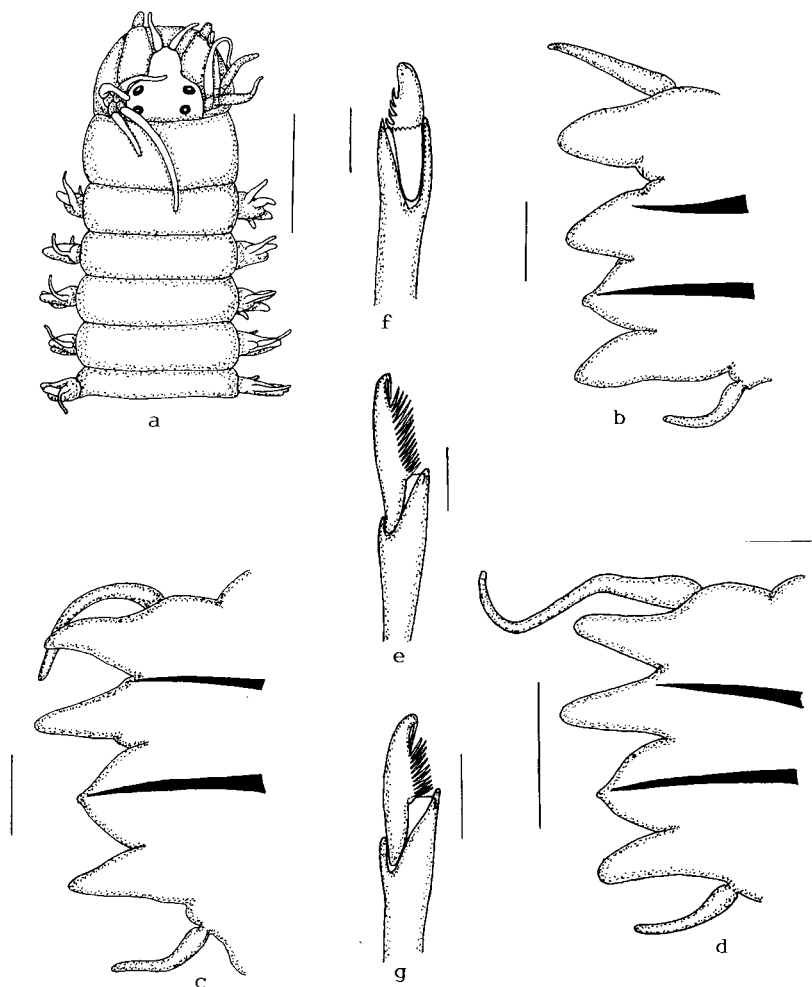


Figure 4. *Nereis baolingi* n. sp. a. Anterior end, dorsal view; b. 10th Setiger; c. 31th Setiger; d. 72th Setiger; e. Neuropodial heterogomph falciger from setiger 10; f. Notopodial homogomph falciger from setiger 72; g. neuropodial heterogomph falciger from setiger 31. Scale bar: (a) 1 mm; (b–d) 150 μ m; (e–g) 15 μ m.

Nereis falsa Quatrefages, 1865

Nereis falsa: Fauvel 1923: 337, fig. 129e–m; Taylor 1984: 31.40, fig. 31.38a–g.

Material Examined.—One spec., sta. 14249 (1).

Distribution.—Cosmopolitan in tropical and temperate waters. Mediterranean, France to South Africa, Indian Ocean, North Carolina south to the Gulf of Mexico, Gulf of California.

Nereis fossae Fauchald, 1972

Nereis fossae Fauchald 1972: 77, pl. 13, figs. a-i.

Material Examined.—13 spec., sta. 11827 (LACM-AHF 1058, Holotype); (LACM-AHF 1059, 12 Paratypes).

Remarks.—Holotype badly damaged. Eyes diffuse, posterior pair rounded, anterior transversely elongate. The pharynx dentition is very close to *N. angelensis*. They can only be differentiated in areas VII-VIII with six cones in one irregular row. Paratypes differ from holotype in the dentition: in the holotype there are in area I: two cones in a row; area II: 15 cones in two rows; area III: 28 in oval cluster; area IV: 18 cones in a circle, with one lateral row of five cones; area V: 0; area VI: three cones in a row; area VII-VIII: six cones in an irregular row; in the 12 paratypes the following arrangement was observed: area I: 0-3 cones in a row, II: 7-22 cones in an elongate group, III: 14-32 in an oval, IV: 9-20 in same arrangement as type, V: no cones, VI: 1-4 cones to the left, 0-5 to the right, VII-VIII: 0-11 cones in one irregular row; in only one specimen with 10 cones they are arranged in two rows.

Distribution.—Endemic. This species has only been collected in the Salsipuedes channel, Gulf of California.

Nereis grubei Kinberg, 1866

Heteronereis grubei Kinberg 1866: 173

Nereis grubei: Reish 1954: 99, pl. 24, figs. 1-12; Rozbaczylo and Bolados 1980: 212, fig. 3a-d.

Material Examined.—123 spec., sta. 127-33 (10); 1045-40 (2); 1049-40 (12); 1912-49 (1); 1917-49 (2); 1923-49 (1); 1928-49 (6); 1976-50 (2); 2066-51 (1); 7439 (2); 14238 (39); 14269 (10); 14293 (1); 14296 (1); 14300 (26); 14334 (7).

Distribution.—Eastern Pacific from Vancouver Island to Valparaiso, Chile. In this work is reported from the Pacific coast of Baja California Peninsula and from some localities in the Gulf of California.

Nereis latescens Chamberlin, 1918
(Fig. 5A-D)

Nereis latescens Chamberlin 1918: 10; Hartman 1940: 224, figs. 1-4.

Material Examined.—68 spec., sta. 1597-47 (1); 1707-49 (2); 14249 (30); 14255 (2 male epitokes); 14257 (1 male epitoke); 14258 (2 male epitokes); 14270 (46, 3 female epitokes and 43 male epitokes); 14279 (11); 14299 (2); 14334 (1).

Diagnosis of Epitokes.—One epitokous male, incomplete with 77 setigers, 21 mm long and 3 mm wide including parapodia. Body divided into two regions: pre-epitoke or pre-natatory region consists of 17 setigers. Dorsal cirri in the first 7 setigers, and ventral cirri in the first 5 setigers are modified; they are anteriorly slender, and swollen in the median region (Fig. 5A). From setigers 8 to 17 parapodia are normal but massive, similar to the atokous specimens (Fig. 5B). Accessory lamellae in the parapodial lobes and in the base

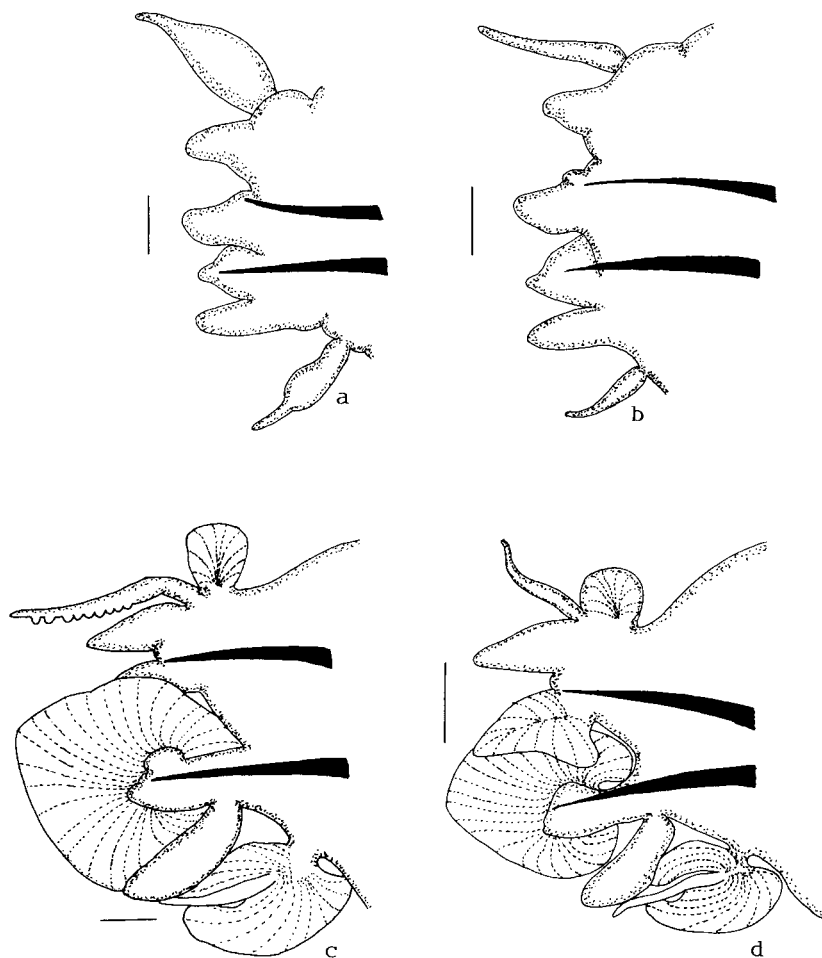


Figure 5. *Nereis latescens* (epitoke). a. 4th Setiger; b. 10th Setiger; c. 34th Setiger; d. 59th Setiger. Scale bar: (a–d) 150 μ m.

of dorsal and ventral cirri are present in parapodia from the natatory region (Fig. 5C,D). Dorsal cirri with up to nine crenulations, which disappear in posterior setigers. Natatory setae with hemigomph articulation, with an oarlike appendix, finely dentate in their internal margin. Pygidium terminal.

Distribution.—Eastern Pacific. In Mexico known for the Baja California peninsula, from Coronado Island south to Bahía Concepción in the Gulf of California.

Nereis riisei Grube, 1857

Nereis riisei: Grube 1857: 162; Monro 1933: 43; Hartman 1940: 221, pl. 33, fig. 37; Reish 1968: 77; Fauchald, 1977a: 31, fig. 8c–e; Taylor 1984: 31.38, fig. 31.36a–g.

Material Examined.—Seven spec., sta. 1056-40 (1) 127-33 (1); 1101-40 (1). 1045-40 (4).

Distribution.—Amphiamerican. Gulf of California south to Panama and Gulf of Mexico. In Mexican shores, Baja California, Baja California Sur, Guerrero, Revillagigedo Islands, Veracruz and Yucatán.

Nereis zonata Malmgren, 1867

Nereis zonata Malmgren 1867: 46; Fauvel 1923: 338, fig. 130g–n; Hartman 1948: 25; Pettibone 1954: 265, fig. 30c,h,i; Uschakov 1955: 212, fig. 66k; Imajima and Hartman 1964: 150; Imajima 1972: 146, fig. 50a–l; Chambers and Garwood 1992: 44.

Material Examined.—13 spec., sta. 1009-39 (1); 1048 (1); Guadalupe Island, between Interna and Externa Islands, 28/01/1940 (1); 14303 (1 epitoke), 14304 (2 epitokes); 191-60 (6); 14271 (1).

Distribution.—Cosmopolitan. Greenland, Denmark, Mediterranean Sea, Eastern Pacific, Japan and Atlantic shores of North America.

Perinereis elenacasoae Rioja, 1947

Perinereis elenacasoae: Salazar-Vallejo 1989: 50; de León-González and Solís-Weiss 1998: 680, figs. 4a–e, 5a–d.

Material Examined.—12 spec., sta. 14311 (1); 14309 (1); 14308 (3); 14310 (3); 1552-46 (4).

Distribution.—Amphiamerican. Pacific coasts of Mexico from Puerto Peñasco, Sonora to Salina Cruz, Oaxaca; Gulf of Mexico, Caribbean Sea to Brazil.

Perinereis monterea (Chamberlin, 1918)

Perinereis monterea: Banse and Hobson 1974: 71, fig. 18n; Berkeley and Berkeley 1958: 403; Hartman 1968: 557; Kudenov 1979: 118; de León-González and Solís-Weiss 1998: 684, fig. 8a–f.

Material Examined.—Two spec., sta. 76-1 (2).

Distribution.—Eastern Pacific in temperate to tropical waters. Canada to Guerrero, Mexico.

Platynereis bicanaliculata (Baird, 1863)

Platynereis bicanaliculata: Hartman 1954: 36, figs. 38–39; Imajima and Hartman 1964: 152; Imajima 1972: 76, fig. 18a–m; fig. 19a–c; Fauchald 1972: 80; Banse and Hobson 1974: 72; Kudenov 1975: 79; Wu et al. 1985: 82, fig. 45a–k; fig. 46a–e.

Material Examined.—14 spec., sta. 539-36 (1); 1509-46 (5); 1917-49 (3); 5835 (2); 2603-54 (3).

Distribution.—Amphipacific in subtropical to temperate waters. Western coasts of Canada south to western Mexico, Hawaii Islands, Japan, eastern and southern coasts of China, Australia.

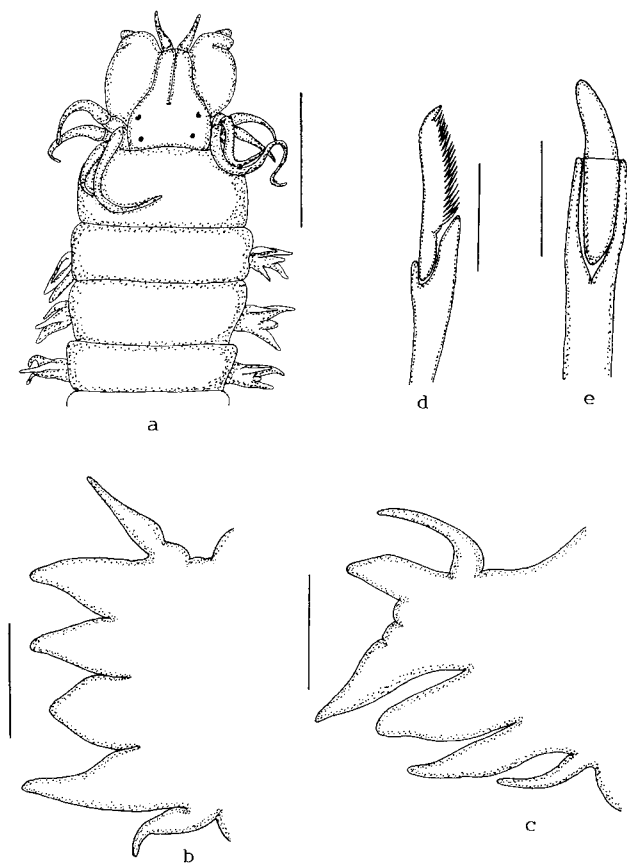


Figure 6. *Rullierinereis fauchaldi* n.sp. a. Anterior end, dorsal view; b. 10th Setiger; c. 31th Setiger; d. Neuropodial heterogomph falciger from setiger 10; e. Notopodial homogomph falciger from setiger 31. Scale bar: (a) 0.5 mm; (b–c) 150 μ m; (d–e) 15 μ m.

***Rullierinereis fauchaldi* new species**
(Fig. 6A–E)

Material Examined.—Two spec., sta. 6177–59 (LACM-AHF 1907, Holotype, and one Paratype UANL 3983).

Diagnosis.—The best preserved specimen is incomplete posteriorly, pale yellow, 7.5 mm long and 0.5 mm wide, with 33 setigers. Prostomium subpentagonal, longer than wide. One pair of frontal cirriform antennae, which extends farther than the anterior part of the biarticulate palps; palps globose with conical palpostyle, two pairs of black eyes in trapezial arrangement, the anterior pair slightly more separated between them, reniform; posterior pair rounded. Peristomium as wide as the prostomium, with four pairs of tentacular cirri, the anterodorsal larger, extending down to the anterior region of setiger 2 (Fig. 6A).

Pharynx partially everted, with no paragnaths or papillae in either pharyngeal rings. Jaws dark, armed with 6 stout large teeth.

Anterior parapodia with notopodium formed by dorsal and median ligules conical and subequal; neuropodia with postsetal lobes triangular, ventral ligule slender, slightly larger than notopodial ligules. Dorsal and ventral cirri basally inserted, subequal (Fig. 6B). Posterior parapodia with notopodia consisting of two ligules, dorsal ones smaller, median triangular, ventrally directed; neuropodia with elongate and stout postsetal lobe, ventral ligule slender. Dorsal and ventral cirri basally inserted, dorsal one larger (Fig. 6C).

Anterior parapodia: notosetae homogomph spinigers; supracicular neurosetae homogomph spinigers and heterogomph falcigers, the latter with a slender, strongly dentate appendage (Fig. 6D), infracicular neurosetae heterogomph spinigers and falcigers. Posterior parapodia with supracicular notosetae, homogomph falcigers with short appendage, distally blunt, internal margin smooth (Fig. 6E). Neurosetae supracicular homogomph spinigers, infracicular falcigers heterogomph, similar to those of anterior parapodia.

Remarks.—The genus *Rullierinereis* was established by Pettibone in 1971, for those species with no papillae or paragnaths in the pharynx. Nine species have been since assigned to this genus. Of these, only in *R. hancocki* Fauchald 1977b and in *R. uncinatus* (Hartman, 1965) the notopodium of the posterior parapodia is elongate, a character shared with *R. fauchaldi*. These species can be differentiated by the shape of the homogomph notopodial falcigers: short and multidentate in *R. hancocki*, short and tridentate in *R. uncinatus* (in this species there are, in addition, slender neuropodial heterogomph infracicular falcigers, with two apical teeth); and in *R. fauchaldi* homogomph notopodial falcigers short and with an internal smooth margin.

Distribution.—Endemic. Known only from San Cristobal bay, western coast of the Baja California Península.

Etymology.—This species is named in honor of Dr. Kristian Fauchald, for his outstanding contributions to the knowledge of the annelid polychaetes.

ACKNOWLEDGMENTS

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APPENDIX 1.

Station data. (Abbreviation "AHPE" = Allan Hancock Pacific Expedition).

- 127-33. Baja California, Santa Maria Bay, 24°47'10"N, 112°16'15"W, shore, at mouth of Lagoon, 21 March 1933, RV VELERO III, coll. AHPE.
- 498-36. Gulf of California, San Lorenzo Channel, 24°22'35"N, 110°19'40"W, 1.5–4.5 m, coralline, 19 February 1936, RV VELERO III, coll. AHPE.
- 539-36. Baja California, Angeles Bay, spit, 28° 53'40"N, 113°32'45"W, 0.3 m, sand, 3 March 1936, RV V VELERO III, coll. AHPE.
- 549-36. Mexico, Gulf of California, east of Angel de la Guardia Island, 29°32'30"N, 113°29'50"W, 12.1 m, sand, 6 March 1936, RV VELERO III, coll. AHPE.
- 607-36. Mexico, Gulf of California, San Lorenzo Channel, 24°21'35"N, 110°20'10"W, 7.3 m, coralline, 21 March 1936, RV V VELERO III, coll. AHPE.
- 633-37. Gulf of California, Espiritu Santo Island, San Gabriel Bay, 24°24'10"N, 110°21'55"W, 5.4 m, coralline, 6 March 1937, RV VELERO III, coll. AHPE.
- 634-37. Gulf of California, Espiritu Santo Island, San Gabriel Bay, 24°25'25"N, 110°20'5"W, shallow water, coral, 6 March 1937, RV VELERO III, coll. AHPE.
- 638-37. Gulf of California, Espiritu Santo Island, San Gabriel Bay, 24°25'25"N, 110°20'55"W, shallow water, coral, 7 March 1937, RV VELERO III, coll. AHPE.
- 639-37. Gulf of California, San Lorenzo Channel, 24°21'55"N, 110°18'40"W, 0.9–1.5 m, sand, coralline and algae, 7 March 1937, RV VELERO III, coll. AHPE.
- 650-37. Gulf of California, east of San Francisco Island, 24°47'35"N, 110°32'20"W, 14.3 m, coarse sand, 9 March 1937, RV VELERO III, coll. AHPE.
- 662-37. Baja California, Agua Verde Bay, off San Marcial Reef, 25°31'35"N, 111°01'45"W, 2.4 m, rock, 11 March 1937, RV V VELERO III, coll. AHPE.

- 683-37. Baja California, off Concepcion Bay, 26°53'50"N, 111°52'25"W, 3.6 m, coralline, 15 March 1937, RV VELERO III, coll. AHPE.
- 688-37. Baja California, Concepcion Bay, 26°41'40"N, 111°51'05"W, 3.6 m, mud and sand, 16 March 1937, RV VELERO III, coll. AHPE.
- 702-37. Baja California, Angeles Bay, 28°55'40"N, 113°32'25"W, 5.4 m, coarse sand, 20 March 1937, RV VELERO III, coll. AHPE.
- 900-38. California, Santa Catalina Island, off Long Point, 33°24'35"N, 118°21'15"W, 12.1 m, rock, brachiopods and sponges, 18 September 1938, RV VELERO III, coll. AHPE.
- 1009-39. Baja California, between south ends of east and west San Benito Islands, 28°18'40"N, 115°33'50"W, 10.6 m, rock, sand and kelp, 19 September 1939, RV VELERO III, coll. AHPE.
- 1045-40. Gulf of California, Tiburon Island, south shore, 28°45'35"N, 112°17'45"W, shore, shingle, 25 January 1940, RV V VELERO III, coll. AHPE.
- 1048-40. Gulf of California, Angel de la Guarda Island, Puerto Refugio, 29°32'33"N, 113°33'57"W, 3.3–6.7 m, dredge, shell and sand, 26 January 1940, RV VELERO III, coll. AHPE.
- 1049-40. Gulf of California, Angel de la Guarda Island, Puerto Refugio, 29°32'47"N, 113°34'35"W, shore, rocky reef, 27 January 1940, RV VELERO III, coll. AHPE.
- 1056-40. Gulf of California, between Angel de la Guarda and Mejia Islands, 29°32'47"N, 113°35'27"W, 1.8–3.3 m, dredge, sand and coralline, 28 January 1940, RV VELERO III, coll. AHPE.
- 1093-40. Gulf of California, Puerto Escondido, 25°49'25"N, 111°18'35"W, 2.4–4.5 m, dredge, sand, sponge and coral, 10 February 1940, RV VELERO III, coll. AHPE.
- 1101-40. Gulf of California, Agua Verde Bay, 25°31'00"N, 111°01'45"W, 3 m, mud and coral, 12 February 1940, RV VELERO III, coll. AHPE.
- 1103-40. Gulf of California, Agua Verde Bay, 25°31'05"N, 111°02'30"W, shore, seine, 12 February 1940, RV V VELERO III, coll. AHPE.
- 1111-40. Gulf of California, San Lorenzo Channel, 24°21'55"N, 110°15'15"W, 1.8–3.9 m, dredge, sand, shell and coralline, 14 February 1940, RV VELERO III, coll. AHPE.
- 1509-46. Baja California, Sebastian Vizcaino Bay, Punta Santa Rosalia, rocky shore, coll. E. Y. Dawson, 13 April 1946.
- 1552-46. Guerrero, Acapulco Harbor, Hornos, base of San Lorenzo Reef, sta. H46-234, coll. C. L. Hubbs, 4 September 1946.
- 1597-47. Baja California, 2 mi south of Rosarito, north of Punta Descanso, within sight of South Coronado Island, rocky reef, coll. J. Mohr, 6 March 1947.
- 1707-49. Baja California, Tortolo Bay, off Cape Tortolo, 27°39'33"N, 114°52'00"W, to 27°39'15"N, 114°52'15"W, bearing 223 degrees T, 0.3 m, small dredge boat, algae, eel grass and mud, RV VELERO IV, coll. AHPE, 6 March 1969.
- 1736-49. Espiritu Santo Island, San Gabriel Bay, 24°26'15"N, 110°21'04"W, shore collecting, mangrove lagoon and beach with sponges and crabs, RV V VELERO IV, coll. AHPE, 14 March 1949.
- 1737-49. Espiritu Santo Island, San Gabriel Bay, 24°26'03"N, 110°21'22"W, 0.3 m, collection of coral heads, crabs and shrimp, RV VELERO IV, coll. AHPE, 15 March 1949.
- 1771-49. Coyote Bay, west of Bargo Island, 26°42'03"N, 111°53'34"W to 26°42'13"N, 111°55'14"W, bearing 308 degrees true north, 0.9–2.1 m, small dredge boat, sponge, scallops, crabs, rock and coarse sand, RV VELERO IV, coll. AHPE, 27 March 1949.
- 1912-49. Guadalupe Island, Melpomene Cove, shore, rocky, RV V VELERO IV, coll. AHPE, 17 December 1949.
- 1917-49. Guadalupe Island, Barracks Beach, 200 yds north, rocky shore with *Ulva*, coll. J. Garth and F. Ziesenhenné, RV VELERO IV, AHPE, 18 December 1949.
- 1923-49. Guadalupe Island, east side, 2.25 mi north of South Bluff, rocky shore with boulder-filled crevices and tidepools, *Eisenia* and *Codium*, RV VELERO IV, AHPE, 19 December 1949.
- 1928-47. Guadalupe Island, 2.25 mi north of South Bluff, rocky shore with kelp and boulder-filled crevices, RV VELERO IV, coll. AHPE, 20 December 1949.

- 1976-50. San Benito Islands, middle Benito Island, west side, 28°18'55"N, 115°34'08"N, shore, rocky tide pools, RV VELERO southeast of San Geronimo Island, bearing 163 degrees T, 29°34'15"N, 115°43'00"W to 29°33'45"N, 115°42'45"W, biological dredge, 16.1–16.4 m, green mud, RV VELERO IV, coll. AHPE, 15 April 1951.
- 2024-51. Baja California, 9.4 mi west of Pt. Malarrime, 27°48'33"N, 114°42'3"W to 27°49'00"N, 114°42'09"W, 2.1–2.7 m, biological dredge, RV VELERO IV, coll. AHPE, 19 April 1951.
- 2064-51. Baja California, nameless cove 12 mi east of Punta Eugenia, 27°50'00"N, 114°51'30"W, shore collecting, rocky ledges and shingle, reached by truck from Turtle Bay, RV VELERO IV, coll. AHPE, 31 October 1951.
- 2066-51. Baja California, Punta Eugenia, 27°51'15"N, 115°04'45"W, shore collecting, rocky, reached by truck from Turtle Bay, RV VELERO IV, coll. AHPE, 1 November 1951.
- 2596-54. Acapulco, shores of St. Lucia Bay, 16°50'54"N, 99°55'18"W to 16°50'17"N, 99°55'37"W, 0.3–1.2 m, SCUBA and dipnet, rocky, mud and sand, RV VELERO IV, coll. AHPE, 1–2 January 1954.
- 2603-54. Baja California, Port San Bartolome, 1.1 mi from Kelp Point, bearing 023 degrees T, 27°41'06"N, 114°53'38"W, shore collecting, kelp and rocky ledges, surf-grass washings, RV VELERO IV, coll. AHPE, 11 February 1954.
- 6177-59. San Cristobal Bay, 11 mi from Morro Hermoso Point, bearing 178.5 degrees T, 27°20'38"N, 114°43'55"W, 15.5 m, grab, glauconitic silty sand, RV VELERO IV, coll. AHPE, 22 March 1959.
- 6179 San Cristobal Bay, 9 mi from Morro Hermoso Point, bearing 159 degrees T, 27°23'15"N, 114°40'45"W, 12.4 m, grab, pulverized shell and glauconitic sand, RV VELERO IV, coll. AHPE, 22 March 1959.
- 7249-61. Baja California, off Cortes Bank, 43.8 miles from Natividad Island Light, bearing 248 degrees T, 27°36'25"N, 115°56'25"W, 624.8–617.8 m, Menzies small dredge and Phleger corer, red clay core and rock, RV VELERO IV, coll. AHPE, 4 January 1961.
7439. Hubbs st. H46-63, 10 December 1946, coll. C. L. Hubbs.
- 11745-67. Nov. 10, 1967, 14 mi 250 T from West Point, Maria Magdalena Island; 21°21'36"N, 106°45'03"W; 525 m; Campbell grab.
- 11791-67. Nov. 24, 1967, 36.5 mi 063 T from San Jose Island light; 25°18'30"N, 110°00'00"W; 405.3 m; Campbell grab.
- 11792-67. Nov. 24, 1967, 37.5 mi 061 T from Punta Colorado, Isla San Jose; 25°20'00"N, 109°58'30"W; 405.3 m; Campbell grab.
- 11813-67. Nov. 28, 1967, 7.2 mi 054 T from Isla Tortuga; 27°31'00"N, 111°44'55"W; 271.8 m; Campbell grab.
- 11815-67. Nov. 28, 1967, 11 mi 118 T from Isla Tortuga; 27°28'30"N, 111°43'30"W, to 27°18'00"N, 111°35'30"W; 268.2–274.3 m; beam trawl.
- 11825-67. Dec. 1, 1967, 10 mi 290 T from S. end Angel de la Guardia Island; 29°03'30"N, 113°20'00"W; 170.6 m; Campbell grab.
- 11827-67. Dec. 1, 1967, 7 mi 253 T from S. end Angel de la Guardia Island; 28°58'13"N, 113°16'28"W; 189.8 m; Campbell grab.
- 11832-67. Dec. 1, 1967, 5 mi 093 T from N. end Isla las Animas; 28°43'00"N, 113°03'00"W; 236.2 m; Campbell grab.
- 13724-70. 19.2 mi from Acapulco light, bearing 248 degrees T, 16°42'10"N, 100°12'45"W, 198.1 m, mud and wood debris, RV VELERO IV, coll. AHPE, 12 January 1970.
- 13755-70. 35.3 mi from Cabo Corrientes light, bearing 205 degrees T, 19°51'30"N, 105°58'00"W, 426.7 m, RV VELERO IV, coll. AHPE, 18 January 1970.
14237. Agua Verde Bay, bottom sample at 29.8 m, gray mud with shell, 25 January 1955, Knudsen sta. 126.
14238. Sta B. 200 yds off Cargo Island, 4.8 m, shell, 27 February 1939, coll. M. W. Johnson.
- 14240; F807–Mexico, Baja California, Concepción Bay, 28 March 1940, collected at night, pe-lagic, coll. E. F. Ricketts.
14241. Puerto Escondido, night-light, coll. E. F. Ricketts, 25–26 March 1940.

14249. Puerto Escondido, "north bay", sandy mud, 21 January 1955, Knudsen sta. 117.
14255. Bahía of San Carlos, widerage, pelagic haul collected at night with light hung over side, 30 March 1940, coll. E. F. Ricketts.
14257. Baja California, near the Descanso shore, 1 June 1938.
14258. Mexico, Baja California, Ballenas Bay.
14269. Northern Baja California, 1 mi north of Ensenada, mid-tide, 8 April 1950, coll. D. J. Reish.
14270. Baja California, Concepción Bay, widerage light, 28 March 1940, coll. E. F. Ricketts.
14271. Guadalupe Island, between inner and outer islands, towards Melpomene Cove, 8 December 1946, coll. C. L. Hubbs.
14279. Carmen Island, west of Pericho Point, Salinas Bay, bottom sample, sand, 19 January 1955, Knudsen sta. 112.
14293. 28°30.0'N, 111°59.5'W to 28°28.0'N, 112°00.3'W, 3 m, Parker sta. 182-60.
14296. 28°30.0'N, 111°59.5'W, 16.7 m, 28 March 1960, Parker sta. 181-60.
14299. San Juanico Bay, in algae collected from shore, 8 February 1955, Knudsen sta. 147.
14300. San Juanico Bay, in algae collected from shore, 8 February 1955, Knudsen sta. 147.
14303. Baja California, Todos Santos Bay, night-light at 19:30, 2 February 1951, coll. R.P. Dales, sample No. 3, temperature 13.8°C.
14304. Baja California, Todos Santos Bay, night-light at 20:30, 2 February 1951, coll. R. P. Dales, sample #11.
14308. Mazatlan, west of town and north of Olas Altas Lighthouse, 12 December 1946, sta. 68, coll. E. Y. Dawson. 1951, coll. R. P. Dales, sample #3, temperature 13.8°C.
14309. Mazatlan, reefs on south side of lighthouse island, rocky shore, 7 December 1946, sta. 69, coll. E. Y. Dawson.
14310. Jalisco, Barra Navidad, rocky shore tidepools, sta. 85, 25 December 1946, coll. E. Y. Dawson.
14311. 2 mi north of Mazatlan, reef, among algal clumps, 7 June 1952, coll. E. Y. Dawson.
14334. Baja California, Bahía Rosarita, Punta Rosarita, associated with intertidal algae, 10 October 1946, coll. E. Y. Dawson.
14355. Parker sta. 211-60, 29°54.3'N, 113°03.2'W to 29°56.0'N, 113°04.0'W, 18 m.